

In the Claims:

Cancel claims 1-22 without prejudice:

The status of the Claims is shown below:

1-22. (Cancelled)

23. (Currently Amended) ~~The method of claim 17, comprising~~ A method of conducting a needle biopsy procedure, comprising:

mounting a biopsy needle to a needle support of a device to cause reciprocation of the biopsy needle;

reciprocating the biopsy needle along its longitudinal axis by the device by converting rotational motion to reciprocatory motion of the needle support by coupling the needle support to a circumferential groove on an external surface of a rotatable cylinder of the device, the groove having at least a portion at an oblique angle with respect to an axis of rotation of the cylinder, the needle support being coupled to the groove through a slot in a housing, the slot having a longitudinal axis aligned with the longitudinal axis of the needle and at an oblique angle with respect to at least a portion of the groove, such that rotation of the cylinder causes reciprocation of the needle support along the longitudinal axis of the slot;

advancing the reciprocating needle to a site of interest within a subject;

collecting tissue at the site of interest; and

withdrawing the needle.

24. (Previously Presented) The method of claim 23, comprising rotating the cylinder hydraulically.

25. (Previously Presented) The method of claim 23, comprising rotating the cylinder by a rotational motor.

26. (Currently Amended) ~~The method of claim 13~~ A method of conducting a needle biopsy procedure, comprising:

reciprocating ~~the a biopsy needle support~~ along a longitudinal axis of the needle,
by electromagnetically generated linear motion;

advancing the reciprocating needle to a site of interest within a subject;

collecting tissue at the site of interest; and

withdrawing the needle.

27. (Previously Presented) The method of claim 26, comprising reciprocating the needle by coupling the needle to a movable solenoid in a chamber of the device, energizing the solenoid and alternately attracting and repulsing the energized solenoid by a magnet in the chamber.

28. (Previously Presented) The method of claim 27, comprising alternately attracting and repulsing the movable solenoid by an energized stationary solenoid in the chamber.

29. (Previously Presented) The method of claim 28, further comprising alternately attracting and repulsing the movable solenoid by a second energized stationary solenoid, on an opposite side of the movable solenoid than the first solenoid.

30. (Currently Amended) ~~The method of claim 13, wherein~~ A method of conducting a needle biopsy procedure, comprising:

automatically reciprocating a biopsy needle along a longitudinal axis of the needle,
the needle is being connected to a syringe with a plunger;

advancing the reciprocating needle to a site of interest within a subject;

~~stopping reciprocation of the needle;~~

withdrawing the plunger to create a negative pressure in a bore of the needle, prior to
collecting the tissue at the site of interest; ~~and then~~

collecting tissue at the site of interest;

reciprocating the needle during tissue collection; and

withdrawing the needle.

31. (Currently Amended) The method of claim 13 30, wherein the needle is connected to
a pump:

the method comprising activating the pump to create a negative pressure in a bore of
the needle, prior to collecting the tissue at the site of interest.

32. (Cancelled)

33. (Cancelled)

34. (Currently Amended) A method of conducting a needle biopsy procedure, comprising:
~~reciprocating a biopsy needle along its axis;~~

hydraulically generating rotary motion;

converting the rotary motion to reciprocating motion of a biopsy needle;

inserting the biopsy needle into a subject;

advancing the reciprocating needle toward a site of interest;

inserting the reciprocating needle into the site of interest; and

collecting tissue at the site of interest.

35. (Cancelled)

36. (New) A method of conducting a needle biopsy procedure with a device comprising a housing comprising at least one wall defining a chamber and a longitudinal slot through a wall of the chamber, a needle support external to the chamber to support a needle external to the chamber, and reciprocating means within the chamber and coupled to the needle support, the method comprising:

mounting the biopsy needle to the needle support of the device;

reciprocating the needle support along the longitudinal axis of the slot by the reciprocating means to reciprocate the biopsy needle along its longitudinal axis;

advancing the reciprocating needle to a site of interest within a subject;

collecting tissue at the site of interest; and

withdrawing the needle.

37. (New) The method of claim 36, wherein the reciprocating means comprises a bearing assembly, the method comprising:

reciprocating the needle support along the longitudinal axis of the slot by the bearing assembly, to reciprocate the needle.

38. (New) The method of claim 36, wherein the reciprocating means comprises a ball bearing assembly, the method comprising:

reciprocating the needle support along the longitudinal axis of the slot by the ball bearing assembly, to reciprocate the needle.

39. (New) The method of claim 36, wherein the reciprocating means comprises a grooved cylinder, the method comprising:

reciprocating the needle support along the longitudinal axis of the slot by the rotation of the grooved cylinder, to reciprocate the needle.

40. (New) The method of claim 36, wherein the reciprocating means comprises a first electromagnet coupled to the needle support and at least one second, stationary electromagnet proximate the first electromagnet, the method comprising:

reciprocating the needle support along the longitudinal axis of the slot by selectively energizing the second electromagnet to cause reciprocation of the first electromagnet and the needle support.

41. (New) The method of claim 36, further comprising:

coupling the needle support to the reciprocating means by a post extending

through the slot, the post having a first end coupled to the reciprocating means and a second end coupled to the needle support.

42. (New) The method of claim 36, comprising:

advancing the reciprocating needle with a stylet within a bore of the needle; and
withdrawing the stylet prior to collecting the tissue.

43. (New) The method of claim 36, comprising reciprocating the needle prior to insertion of the needle into the subject and inserting the reciprocating needle into the subject.

44. (New) The method of claim 36, comprising reciprocating the needle while collecting the tissue.

45. (New) The method of claim 36, further comprising guiding the needle to the site of interest by magnetic resonance imaging.

46. (New) The method of claim 27, comprising, alternately, attracting and repulsing the movable solenoid by at least one permanent magnet.

47. (New) The method of claim 30, further comprising stopping reciprocation of the needle prior to withdrawing the plunger.